

Neutral Density Filter

ND-70

Catalog Thickness t = 2.5 mm

Reflection Factor $P_d = 0.923$

Diagram-6

Transmittance (T) & Internal Transmittance (τ) units: (%)

λ_{nm}	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440
T													$4 \cdot 10^{-3}$.50	7.4	23.4	40.0	48.1	42.9	59.3	65.9	65.9	65.3	66.6	66.5
τ													$4 \cdot 10^{-3}$.54	8.0	25.4	43.3	52.1	46.5	64.2	71.4	71.4	70.7	72.2	72.0
λ_{nm}	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650	660	670	680	690
T	67.5	69.8	70.6	70.7	70.7	70.7	70.7	71.0	71.2	71.3	71.3	71.3	71.3	71.1	70.9	71.0	71.0	71.0	70.9	70.7	70.7	70.7	70.7	70.7	70.7
τ	73.1	75.6	76.5	76.6	76.6	76.6	76.6	76.9	77.1	77.2	77.2	77.2	77.2	77.0	76.8	76.9	76.9	76.9	76.8	76.6	76.6	76.6	76.6	76.6	76.6
λ_{nm}	700	710	720	730	740	750	800	850	900	950	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400
T	70.7	70.5	69.9	69.5	68.7	67.8	63.5	58.7	54.2	50.7	48.0	46.0	47.7	51.8	56.3	60.8	62.6	63.0	63.3	64.4	65.4	66.5	66.0	67.4	65.5
τ	76.6	76.4	75.7	75.3	74.4	73.5	68.8	63.6	58.7	54.9	52.0	49.8	51.7	56.1	61.0	65.9	67.8	68.3	68.6	69.8	70.9	72.0	71.5	73.0	71.0

Refractive Indices

Symbol	i	h	g	F'	F	e	d	D	C'	C	r	A'	t
λ_{nm}	365.0	404.7	435.8	480.0	486.1	546.1	587.6	589.3	643.8	656.3	706.5	768.2	1,014.0
n	1.519	1.513	1.510	1.506	1.505	1.502	1.500	1.500	1.498	1.497	1.496	1.495	1.490

Abbe-Number

$$V_d = \frac{n_d - 1}{n_F - n_C} = 63$$

Color Specifications

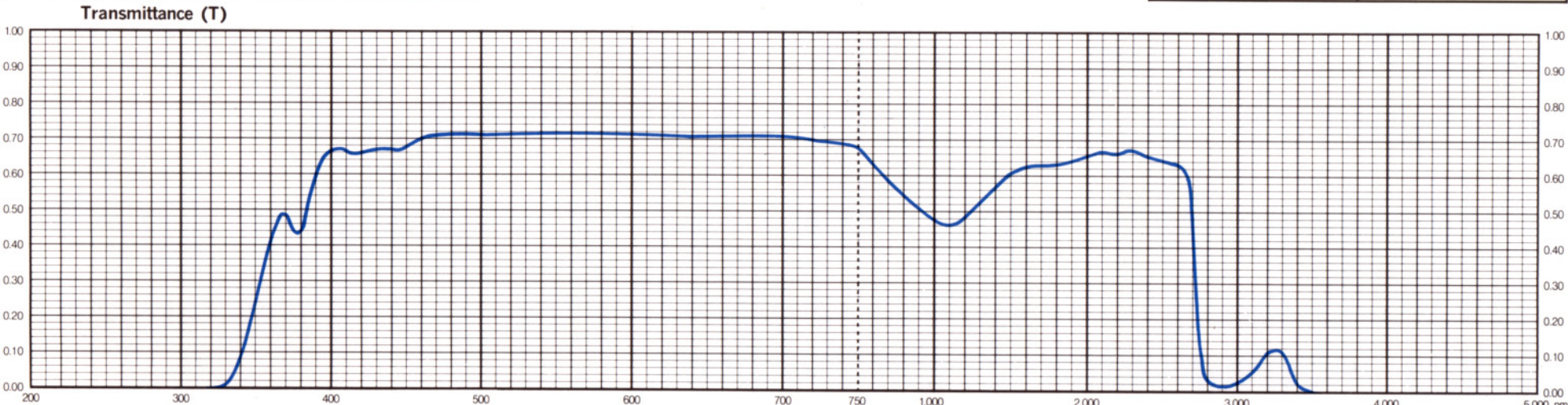
	x	y	Y	λ_d	P_e
A	.449	.410	71.0	578	3
C	.313	.321	71.0	571	2
D ₆₅	.315	.334	71.0	567	2

Properties

Chemical		Thermal				Mechanical		Other
D _w	D _A	T _g	T _s	$\frac{\alpha}{-30/70}$	$\frac{\alpha}{100/300}$	H _K	F _A	S
4	5	470	540	66	72	510	100	2.39

Tolerances of Transmittance (T)

Average Transmittance at 400 nm-700 nm	Average Optical Density
T _{av} (%)	D _{av}
70 ± 5	0.15



All data are mean values of various melts.